

PSYCHOLOGY

UNIT 1 Semester One 2019

Marking Key

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| --- | --- |
| Section One: Research methods | 20% (35 Marks) |

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**Question 1 (9 marks)**

Gretel read that using a warm (yellow coloured) light while studying helped to increase retention of information as opposed to cool (blue toned) lighting and was interested to test this theory with high school students. She recruited 150 students from Years 11 and 12 at three different high schools near her research centre and divided them into two groups; those that would work under warm lighting, and those that would work under cool lighting. She gave each group 30minutes to remember as many items on a list as possible, before turning both rooms’ lights to neutral tones and giving both groups the same distractor task for 10 minutes. Following this, she asked participants to write down as many items as they could remember from the list.

1. Is this study experimental or non-experimental? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Experimental | 1 |
| **Total** | **1** |

1. Explain the difference between an experimental and non-experimental study. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| An experimental study manipulates variables and is able to tell causation. | 1 |
| whereas a non-experimental study does not manipulates variables and is not able to tell causation, only comment on a relationship | 1 |
| **Total** | **2** |

1. What is the sample and population for this study? (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Sample: 150 Year 11 and 12 students from 3 schools nearby to research centre | 1 |
| Population: High school students | 1 |
| **Total** | **2** |

1. Name and describe **two** ethical considerations that Gretel should have taken into account when conducting her study. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| One mark for name, one mark for description. | |
| Any **two** of:   * informed consent – informing participants of the nature of the research, any risks and their expectations of participants * confidentiality – the right to have information that is shared in a professional relationship, kept within that relationship * voluntary participation – not coercing or pressuring participants to take part in research * withdrawal rights – the right to cease taking part in the study at any time, for any reason | 1-4 |
| **Total** | **4** |

**Question 2** **(16 marks)**

1. Describe what is meant by the term ‘variable’. (1 mark)

“any item, factor, or condition that can be controlled or changed”

correct answers must include phrase “controlled or changed” (or similar)

1. Define the terms independent and dependent variable. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| IV – variable that is changed in an experiment | 1 |
| DV – the variable that is being measured for a relationship with the IV | 1 |
| **Total** | **2** |

1. What is an uncontrolled variable? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Variables that may influence the DV but have not been taken into account or variables that have been left unmonitored as they are thought to have no effect on the outcome. | 1 |
| **Total** | **1** |

**Question 3**

1. Give the mean, mode and median number of hours spent on social media daily by Jed’s classmates. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Mean – 5.6 | 1 |
| Mode – 5 | 1 |
| Median – 5 | 1 |
| **Total** | **3** |

1. What is the range reported by Jed’s classmates of how often they were bullied in the last month? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Range - 11 | 1 |
| **Total** | **1** |

1. What does the range tell us in a set of data? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Range tells us the difference between the highest and lowest scores in a data set | 1 |
| **Total** | **1** |

1. Was the data collected in Jed’s study qualitative or quantitative? Explain your answer. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Quantitative | 1 |
| It was able to be analysed statistically (numerical data). | 1 |
| **Total** | **2** |

|  |  |
| --- | --- |
| **Section Two: Short answer** | **55% (74 Marks)** |

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**Question 4**

1. Complete the table below. (6 marks)

|  |  |  |
| --- | --- | --- |
| Brain Section | Location | Function |
| Hindbrain | Base of brain near back of skull | Vital activities; breathing, sleep, heart rate, coordination, reflex |
| Midbrain | On top of brainstem, under cerebral hemispheres | Receives messages from all senses except smell and sends to correct location in cerebrum |
| Forebrain | Main section of brain | Controls how we think, feel and behave |

1. What is the function of the corpus callosum? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Connects the two hemispheres of the brain | 1 |
| **Total** | **1** |

**Question 4** (continued)

1. Label the **four** major parts of the neuron below. (4 marks)

Cell body

dendrites

Axon

Myelin sheath

**Question 5 (12 marks)**

1. For the following scenarios, suggest which brain scanning technique would be most appropriate. Give **two** reasons for each answer.
2. Bing has been suffering from strange seizures, doctors are wanting to scan his brain to see where these seizures are occurring, Bing also has a metal pacemaker helping his heart. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| PET (positron emission tomography) | 1 |
| Produces dynamic images, PET shows areas using more glucose and so they can see what part of the brain is triggering the seizures, the PET is safe for people with metal in their bodies. | 1-2 |
| **Total** | **3** |

1. Jessica is having sleeping issues and doctors think her body may be having trouble changing brain wave patterns. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| EEG (electroencephalograph) | 1 |
| EEG measures brain wave patterns, it is of whole brain, not parts | 1-2 |
| **Total** | **3** |

* 1. Elrich is having trouble seeing but his eyes are both fine, doctors think he may have a growth in his brain. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| CAT (computerised axial tomography) scan OR MRI (magnetic resonance imaging) | 1 |
| Take still images of the brain, produces clear pictures from which abnormalities can be spotted | 1-2 |
| **Total** | **3** |

1. Phineas Gage is a very famous case study looking at brain injury and its impact. Briefly describe the where the damage was caused in Phineas’ brain and the impact it had on

him as a person. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Phineas damaged his frontal lobe. | 1 |
| The accident changed his personality, he became impulsive and rude, he became disorganised, had trouble planning and trouble with self-control. | 1-2 |
| **Total** | **3** |

**Question 6 (10 marks)**

1. Explain the difference between sensation and perception when it comes to psychology.

(2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Sensation is the information taken in by our sense organs and transmitted to the brain for processing. | 1 |
| Perception is when these sensory stimuli are given meaning by the brain. | 1 |
| **Total** | **2** |

1. Differences in how people perceive the world explains visual illusions; define the term

visual illusion. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Length, position, direction or motion is misjudged consistently, over time, and by everyone. | 1 |
| **Total** | **1** |

1. While writing a psychology exam, Lateesha habituated the sound of the clock in the corner.
2. Define the term habituation. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| A decrease in attention when a stimulus is repeated. | 1 |
| **Total** | **1** |

1. Define the term dishabituation. Give an example of this occurring in Lateesha’s situation. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| A renewal of attention when there is a change in the stimulus. | 1 |
| The clock struck 3pm and made a “ding” noise three times. | 1 |
| **Total** | **2** |

1. Xian-Li and Sandra are studying together in the library. Give an example of selected and divided attention in this scenario. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Selected - Sandra asks Xian-Li a question and gets no response as Xian-Li did not hear her, she was engrossed in her studies. | 1 |
| Divided - Sandra and Xian-Li discuss their ball dresses together while reading the textbook. | 1 |
| **Total** | **2** |

1. Why do psychologists use physiological responses for states of consciousness rather than other measures? (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| States of consciousness cannot be directly measured and methods such as observation or what people tell us can be biased, dishonest or incorrect. | 1-2 |
| **Total** | **2** |

**Question 7 (12 marks)**

1. Miles is 18 and sat the Stanford-Binet intelligence test, and gained a mental age of 16. Calculate his IQ and show your working. (2 marks)

16/18 x 10=

88.89

1. What is **one** advantage to using individual intelligence testing instead of group testing?

(1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Any one of below   * More information can be derived from the test * Reduce anxiety – examiner puts the person at ease * Examiner develops relationship with person | 1 |
| **Total** | **1** |

1. Define the psychological concept of intelligence (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| ability to learn from experience | 1 |
| solve problems | 1 |
| and use knowledge to adapt to new situations. | 1 |
| **Total** | **3** |

1. Also popular in contemporary intelligence ideas is Gardner’s theory of multiple intelligences, originally seven and later nine different areas of unique intelligence. Name and describe **three** of these intelligences. (6 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| One mark for name, one mark for description for a maximum of six marks. | |
| Any **three** of:   * Musical-rhythmic - sensitivity to sounds, rhythms, tones, and music. People with a high musical intelligence normally have good pitch, are able to sing, play musical instruments, and compose music. * Visual-spatial - spatial judgment and the ability to visualize with the mind's eye. * Verbal-linguistic - abilities with words and languages. They are typically good at reading, writing, telling stories and memorizing words along with dates. * Logical-mathematical - logic, reasoning, numbers and critical thinking. * Bodily-kinesthetic - control of one's bodily motions and the capacity to handle objects skillfully; a sense of timing, a clear sense of the goal of a physical action, along with the ability to train responses. * Interpersonal - sensitivity to others' moods, feelings, temperaments, motivations, and their ability to cooperate in order to work as part of a group. * Intrapersonal - introspective and self-reflective capacities, a deep understanding of the self; what one's strengths or weaknesses are, what makes one unique, being able to predict one's own reactions or emotions. * Naturalistic - readily able to recognize flora and fauna, to make other consequential distinctions in the natural world, and to use this ability productively * Existential - Sensitivity and capacity to tackle deep questions about human existence, such as the meaning of life, why we die, and how did we get here | 1-6 |
| **Total** | **6** |

**Question 8 (27 marks)**

|  |  |  |
| --- | --- | --- |
| **Description** | **Marks** |  |
| Physical activity |  |  |
| Impact on behaviour   * More energetic, less tired * Strengthens heart, lowering blood pressure, body able to cope more * Live longer | 1-2 |  |
| Impact on emotion   * Less depressed – exercise comparable to medication in reduced symptoms of depression and assisting other mental health issues * Increase in mood-boosting neurotransmitters (serotonin, noradrenaline, endorphins) – “runner’s high” | 1-2 |  |
| Impact on thought   * Lowers stress due to lowered blood pressure * Promote feelings of being able to “cope”, provide feelings of success to increase positive thoughts about one’s capabilities * Higher levels of physical self-concept – we think about ourselves more positively – which in turn impacts our emotions about ourselves | 1-2 |  |
| Recreational drugs - Categorises drug (stimulant, depressant, hallucinogen) |  |  |
| Cannabis – hallucinogen/depressant; Alcohol – depressant; Amphetamines – stimulant | 3 |
| Physiological responses | |  |
| Cannabis/marijuana – possibly able to treat epilepsy, helps with pain and nausea, stimulates appetite | 1 |  |
| Alcohol – calms nervous system and slows bodily function, affects motor control, slows our response times, impacts our coordination, slurs speech. Long term can cause liver and kidney problems, abuse can shorten life expectancy. | 1 |  |
| Amphetamines – excites nervous system, arouses body functions, increase heart and breathing rates, dilates pupils, may cause tremors. After effects include headaches, tiredness, irritability, impacts on working memory and cognitive control | 1 |  |
| Psychological responses | |  |
| Cannabis/marijuana – changes perceptions, gives sensory images without input from the senses, altered memory, confusion, anxiety, loss of inhibition | 1-2 |  |
| Alcohol – increases confidence, reduces feelings of anxiety, promotes relaxation, reduces self-consciousness, loss of inhibition | 1-2 |  |
| Amphetamines – improve focus on tasks, raise mood, increased feelings of energy, feelings of excitement, increased confidence, may experience strong mood swings, loss of inhibition | 1-2 |  |
| Use of Psychological Evidence – quantity |  |  |
| Several statements are supported by relevant psychological evidence | 2 |  |
| One or two statements are supported by relevant psychological evidence | 1 |
| Use of Psychological Evidence – quality |  |  |
| One or more examples of detailed description of relevant psychological evidence (e.g. 3-4 sentences about a specific research study and findings) | 3 |  |
| Relevant psychological evidence, including some description | 2 |
| Psychological evidence consists of names/statements only without description (e.g. study of study, name of researcher) | 1 |
| Psychological evidence is explained within the context of the rest of the response, and has explanation of how evidence is relevant to the question | 1 |  |
| Quality of response |  |  |
| Well-structured with consistent use of appropriate psychology language and correct spelling, grammar and punctuation throughout. | 3 |  |
| Satisfactory structure and everyday language with adequate spelling, grammar and punctuation | 2 |
| Poor structure with colloquial language and/or poor English expression and/or many spelling/grammar/punctuation errors throughout | 1 |
| **Total** | **27** |  |

Possible evidence can include:

McCann & Holmes (1984)

* Studied mildly depressed female college students for 10 weeks
* ⅓ participants assigned to relaxation techniques, ⅓ assigned to aerobic exercise and ⅓ received no treatment.
* No significant difference in depression symptoms of individuals beforehand.

Cooney et al

* Conducted a meta-analysis
* Found that exercise is better than no intervention, and just as effective as psychological/pharmacological therapies.
* Exercise is cheaper and acceptable to patients, and so is being suggested more as a first intervention.

**Question 9 (24 marks)**

|  |  |  |  |
| --- | --- | --- | --- |
| Dot point | Criteria | Mark | |
| Explain how this visual illusion works, using two principles of visual perception | Identifies two relevant principles (one mark per each)  Any of below:   * Perceptual set/expectancy (Past experience) * Figure-ground * Closure * Proximity * Similarity | 2 |  |
| Describes each principle | 2 |  |
| Explains how principle is shown in the image | 2 |  |
| Explain the type of attention Alex is using, and explain which type he should use instead | Identifies Alex is using divided attention  Describes divided attention | 2 |  |
| Identifies Alex should be using selective attention  Describes selective attention | 2 |  |
| Identifies why divided attention is less effective when doing difficult tasks | 1 |  |
| Explain two ways that Alex could test his intelligence | Identifies 2 intelligence tests e.g. Stanford Binet, Weschler, reaction time (Galton) | 2 |  |
| Describes how each intelligence test measures intelligence. E.g. a description of types of questions or types of intelligence it measures | 2 |  |
| Evidence quantity | Several statements are supported by relevant psychological evidence | 2 |  |
| One or two statements are supported by relevant psychological evidence |  |
| Evidence quality | One or more examples of detailed description of relevant psychological evidence (e.g. 3-4 sentences about a specific research study and findings) | 3 |  |
| Relevant psychological evidence, including some description |  |
| Psychological evidence consists of names/statements only without description (e.g. study of study, name of researcher) |  |
| Psychological evidence is explained within the context of the rest of the response, and has explanation of how evidence is relevant to the question | 1 |
| Structure | Well-structured with consistent use of appropriate psychology language and correct spelling, grammar and punctuation throughout. | 3 |  |
| Satisfactory structure and everyday language with adequate spelling, grammar and punctuation |  |
| Poor structure with colloquial language and/or poor English expression and/or many spelling/grammar/punctuation errors throughout |  |
| Total | | /24 | |